Presentation, analysis and evaluation of the A.I.M. Point System: a case study of a female athletics coach, who introduced and implemented an innovative motivational approach on junior athletes, in Thessaloniki, Greece.

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To my amazing friends
Konstantina and Vassilis
for their love and
patience...

Abstract

Objectives. The purpose of the current study is to explore the A.I.M. Point System, an Athletic Improvement through Motivation System a female coach implements in her junior athletes.

Design/Method. Data were collected with qualitative and quantitative methods; the instruments used were a semi structured interview of the coach, an observation checklist filled during 6 different training sessions of 8 hours in total and two questionnaires filled by the participant children. From the analysis of the interview three main themes were identified: "Behaviour improvement", "Motivation for everyone" and "Distinguished Actions". The Questionnaire 1 and the Observation Checklist aimed to assess the system according to the principles of Self Determination Theory and intrinsic motivation, while the interview and Questionnaire 2 gave a detailed insight into the nature and the philosophy of the system.

Results. The analysis showed that the AIM Point System is a safe educational approach according to the Self Determination Theory and the principles of Intrinsic Motivation. The qualitative methods used gave a detailed and clear insight into the system's patterns with which children felt motivated to improve their behaviour and sport performance during their training sessions.

Conclusion. This case study provides insight into the specific system and aims to present it as a special educational approach that can be used by teachers and coaches. Suggestions are offered regarding how next studies can examine the system further.

Keywords: AIM Point System, intrinsic motivation, Self Determination Theory, rewards

Contents

Introduction

Motivation constitutes one of the most critical variables in competitive and participatory sport (Vallerand, 1997). It is the key which facilitates performance and creates the positive experience feeling in the participants. McCullagh (2005) defined motivation as the intensity and orientation of effort, with intensity referring to the quantity of effort and orientation to the personal goals that produce action. For example, there is a student who is highly motivated to do his or her homework without any interest or, alternatively, because s/he wants to receive praise from the teacher or parent. Another student might be motivated to learn a new set of skills because s/he understands their potential value and utility or, on the other hand, because they expect that they will receive a good grade, and thus all the privileges that may arise from it. In both examples the amount of motivation might be the same but there is a difference in the nature and orientation of it. Research indicates that enhanced motivation promotes learning, performance, enjoyment, and persistence in sport, among other benefits (McCullagh, 2005; Wilson, 2005). Considering this, it becomes evident how important it is for educators and coaches to secure a teaching environment which encourages the development of motives. In order for teachers and coaches to achieve the latter they need to give great emphasis on the development of intrinsic motivation to their athletes.

The purpose of the present research project is the presentation, analysis and evaluation of the AIM (Athletic Improvement through Motivation) Point system, an athletic motivation improvement system which was introduced and implemented by a female youth athletics coach in athletes aged 8-12 years old. In particular, this case study focuses on the participants' perception of the system including the children and their coach. It also examines the point to which the latter encourages enjoyment and intrinsic motivation during a coaching session. Thus, this study seeks to investigate: How is the AIM System being used in practice? How is positive reinforcement encouraged through the AIM System? What aspects of behaviour are improved through this system?

The ultimate aim of the present study is to suggest the specific system as a new practice in the field of education which contributes to the enrichment of the current literature. The system mostly interests coaches who work with junior athletes and, physical education teachers.

The following chapters will give insight into the relevant literature, the methodology procedure followed in the project and the analysis and discussion of the findings.

1. Literature Review

The literature that underpins the present study is the Self Determination Theory (SDT) and the Cognitive Evaluation Theory (CET). Self Determination Theory (SDT) (Deci, 1975; Deci & Ryan, 1985) suggests that humans have three central psychological needs, namely relatedness, competence, and autonomy. Deci and Ryan (1994) underline these needs with the following phrase: "people are inherently motivated to feel connected to others within a social milieu (relatedness), to function effectively in that milieu (competence), and to feel a sense of personal initiative in doing so (autonomy)" (p.7). In the context of SDT, Deci & Ryan (2000) developed a sub theory, known as Cognitive Evaluation Theory, which supports those interpersonal events and structures such as rewards, communications and feedback that may encourage a person's feelings of competence during a lesson, enhance his or her intrinsic motivation for a specific activity, satisfying the basic psychological need for competence.

When Deci and Ryan (1985), Ryan and Deci (2000, 2002) presented SDT, they constructed a continuum of self-determination where they placed the reasons why individuals participate in an activity, exert effort and persist.

At the far right of the continuum is the most self determined form of behavioural regulation; it involves intrinsic motivation, which is the case when the individual does something because it is inherently interesting or enjoyable, and takes part in the specific activity for the pleasure and satisfaction derived from it. On the opposite end of the continuum is amotivation, which is the state when the individual lacks intention and interest to act. Amotivation is a total indifference toward a specific activity (Ryan, 1995), a feeling of incompetence to do it (Deci, 1975), or a belief that it will not yield a desired outcome (Seligman, 1975). Between amotivation and intrinsic motivation we find extrinsic motivation.

In the context of Self Determination Theory, there are four types of extrinsic motivation that are situated on a continuum from lower to higher levels of self-determined behaviour. These types of extrinsic motivation are external regulation, interjected regulation, identified regulation, and integrated regulation. Participation in sports and various activities derives from a combination of intrinsic and extrinsic motives (Anderson-Butcher, Newsome, & Ferrari, 2003; Weiss & Ferrer-Caja, 2002). The primary or central motives for participation reveal the person's motivational orientation toward that activity. People who are intrinsically motivated and participate in activities for the enjoyment derived from them, or for the value they attach to them (identified regulation), they have a more self-determined motivational orientation. In contrast, when the avoidance of feelings of guilt or feelings of ego-enhancement urges them to participation (introjected regulation) or when they are persuaded to participate by some external demand or reward (external regulation), a non self-determined motivational orientation is evident.

It is of a great significance the extent to which people are more or less self-determined toward the activities, because their motivational orientation which is self-determined leads to positive cognitive, affective, and behavioural outcomes (Ryan & Deci, 2002; Vallerand & Losier, 1999; Vallerand & Ratelle, 2002; Weiss & Ferrer-Caja, 2002). For example, people are more likely to choose to participate and work hard when extrinsic rewards and reinforcements are not available, they experience lower levels of performance-related anxiety, and exhibit greater levels of skill learning when their motives are more self-determined in nature (see Ryan & Deci, 2002; Vallerand & Losier, 1999; Vallerand & Ratelle, 2002; Weiss & Ferrer-Caja, 2002). Taking into account these findings, a significant achievement for teachers and coaches is to identify the factors that lead to the development of a self-determined motivational orientation, and adapt the teaching and coaching environment according to them.

One of the central principles of SDT (Ryan & Deci, 2000, 2002) is that self-determined motivation is affected by the extent to which the fundamental human

needs for competence, autonomy, and relatedness are fulfilled. The need for competence represents the individuals' need to know that their participation is successful, they are able enough to succeed in their chosen activity, and that their behaviour is effective. The need for autonomy reflects the need to perceive that we are self-controlled in terms of our participation in any activity. That is to say, our behaviour and choice for participation is not led by any authority and we are the origins of our own behaviour and actions. Finally, the need for *relatedness* is the need for belonging and being secure, and at the same time for being connected with others in a group (Ryan & Deci, 2002). As a result, any approach that tends to satisfy the needs for competence, autonomy, and relatedness develops the self determined motivational orientation toward an activity.

SDT research has made evident a connection between some social-contextual events, such as rewards, feedback, imposed deadlines, competition, surveillance, and interpersonal styles on individuals' need for satisfaction and subsequent motivation (Deci, Koestner, & Ryan, 2001; Henderlong & Lepper, 2002; Ryan & Deci, 2002; Vallerand & Losier, 1999). The significant role of the coaches is obvious here because their role is that influential that they are in a position to create a coaching environment in a way that it will affect the factors that determine the motivational outcomes. For example, they provide performance-related feedback, give out rewards, or involve athletes in the decision-making process. Mageau and Vallerand (2003) suggested that coaches' actions can be incredibly influential upon participants' motivational orientations in the sport setting. Research has provided evidence upon this assertion and has identified that athletes' perceptions of their coaches' behaviours are associated with their motivational orientation (Horn, 2002; Mageau & Vallerand, 2003; Vallerand & Losier, 1999). For example, Amorose and Horn (2000) found that college athletes had higher levels of intrinsic motivation when they perceived that their coach's behaviour was based on the adoption of a leadership style that emphasized training and instruction and was high in democratic behaviour and low in autocratic behaviour.

In addition to this, high levels of intrinsic motivation were associated with athletes' perception that their coaches provided frequent positive and informative feedback (i.e., technical instruction) and not often feedback that tended to punish, or ignore behaviours. Furthermore, based on SDT (Ryan & Deci, 2000, 2002), as well as Vallerand's (1997) hierarchical model of motivation, a few studies have shed light on the relationship between coaching behaviours and motivation, and proved that it is mediated by the needs for competence, autonomy, and relatedness (Hollembeak & Amorose, 2005; Sarrazin, Vallerand, Guillet, Pelletier, & Cury, 2002). That is to say, the behavioural approach that coaches adopt and implement in practice can influence and determine athletes' perceptions of competence, sense of autonomy, and feelings of relatedness. This perception in turn, influences the athletes' motivation. For instance, Hollembeak and Amorose (2005) after testing a series of structural models found that college athletes' perception of their coaches' leadership approach influenced their motivational orientation through the influence upon their needs of competence, relatedness and autonomy. More particularly, those athletes that perceived that their coaches were following an autocratic decision-making style had lower levels of autonomy and relatedness, and reported less intrinsic motivation. On the other hand, athletes who believed their coach to have a democratic decision-making style indicated high levels of autonomy and intrinsic motivation.

While many coaching behaviours appear to affect athletes' motivation, the one that appears to be the most relevant is the autonomy-supportive versus controlling behaviour (Mageau & Vallerand, 2003). A coach who is autonomy-supportive engages athletes in the decision making process, encourages self-initiation, and regulation, minimizes the use of pressure, and demands to control the group (Deci & Ryan, 1985, 1987). Conversely, when a coach demands from the athletes to act strictly according to his or her own willingness and needs, this is proof of a controlling interpersonal style. All in all, coaches who are autonomy-supportive satisfy these fundamental needs of their athletes, whereas controlling behaviours diminish the satisfaction of these needs and the subsequent self-determined motivation (Mageau & Vallerand, 2003).

Various studies have examined intrinsic motivation and its variables in specific teaching and coaching environments and how this influences their athletes' self-autonomy and regulation and thus, their participation in the specific activity.

Amorose & Anderson (2006) conducted a cross-sectional survey study, using a sample of male and female high school and college athletes, who completed questionnaires in order to assess the key variables of interest. Self-determination theory was used as background, and it was examined whether perceived competence, autonomy, and relatedness mediated the relationship between perceived autonomy-supportive coaching and athletes' motivational orientation.

Ntoumanis (2001) used questionnaires to measure intrinsic motivation and other variables such as cooperative learning, self referenced improvement, choice of tasks (social factors), perceived competence, autonomy, and relatedness (psychological mediators), extrinsic motivation and its variables, identification, introjection, external regulation, and amotivation, boredom, effort, and future intention to exercise (consequences). The sample was 424 British students, aged 14± 16 years, from Northwest England. The findings from this study supported the significance of perceived competence and intrinsic motivation in compulsory PE.

Another study by Standage, Duda and Ntoumanis (2005) examined a motivation model based on self determination theory. The participants were 950 British secondary school students who completed a questionnaire which included measures of need support, need satisfaction, motivation, positive and negative effect, task challenge, and concentration. The results of the study provided support for self-determination theory and for the application of the framework to the context of school PE.

Mageau, Vallerand, Charest, Salvy, Lacaille, Bouffard, and Koestner (2009), showed in their study that coaches' autonomy support facilitates self-determined motivation and sport performance. Their aim was to prove this notion using as a

background the hierarchical model of intrinsic and extrinsic motivation (Vallerand, 1997). For this purpose they used as sample 101 judokas who completed questionnaires after the weighting session.

Ferrer-Caja & Weiss (2000) using CET (Cognitive Evaluation Theory) as a framework examined the relationship among social factors, individual differences, intrinsic motivation, and effort and persistence in the context of PE classes. For this purpose they used as sample high school students who completed measures of motivational climate, teaching style, perceived competence, self-determination, goal orientations, and intrinsic motivation. Perceived competence and goal orientations found to be predictors of intrinsic motivation and also mediators of the effects of motivational climate and teaching style on intrinsic motivation. In addition, intrinsic motivation was a predictor of effort and persistence. Task goal orientation mediated the effects of learning climate on perceived competence and self-determination. Task goal orientation, perceived competence, and learning climate were found to be the strongest predictors of intrinsic motivation.

Mageau & Vallerand (2003) examined coaches' autonomy-supportive behaviours upon athletes' needs for autonomy, competence and relatedness. The aim of this study was to present a motivational model of the coach-athlete relationship that describes how coaches may influence athletes' motivation. As a framework they used Cognitive Evaluation Theory (Deci and Ryan, 1980, 1985) and the hierarchical model of intrinsic and extrinsic motivation (Vallerand, 1997, 2000)

A qualitative study by Keegan, Spray, Harwood & Lavallee (2010) examined the coach, parent and peer influences on the motivational orientation of the sport participants. The sample was 79 individuals from 9 to 18 years old and from 26 different sports. The results showed that the coaches' role was influential in terms of instruction and assessment, parents' role for support and facilitation, while peers influential role was evident through the competitive and collaborative

behaviours, evaluative communications, and generally through participants' social interactions.

McCarthy, Jones, Clark-Carter (2007) shed light on motivation strategies that foster psychological development. They used evidence from the current literature to set a foundation for youth sport programs that enhance the development of motives and the psychological development in general.

Roberts & Treasure (1995) aimed to identify the basic tenets of achievement goal theory and to analyse the research having been conducted upon instructional practices and strategies that enhance the motivation of school-aged children.

2. Methodology

The primary purpose of this case study is to present a motivation approach that athletics' coach implements in junior athletes and through which aims to develop her athletes both psychologically and physically. To do so, we collected data from both the coach and the athletes and we also assessed the coaching process with the use of an observation process.

2.1. Participants

The first participant in the study was the female athletics' coach who introduced and implemented to her athletes the AIM Point System. The second category of participants was a sample (n=20) comprised of boys (n= 8) and girls (n =12). Participants ranged in age from 8 to 11 years and were primary school athletes.

As a result of my involvement as a coach of junior athletes in the specific athletic club in which the system has been used and having a personal experience of the AIM Point System, I decided to explore it further. My cooperation with the specific club would allow me to have easier access to the athletes during their coaching sessions.

The first step in the study was to complete the application for Ethical Approval of Research involving Human Participants or the use of personal data which would be assessed by the Faculty Research Ethics Panel (FREP) of Liverpool John Moores University (Faculty of Education, Health and Community). In this application the aim of the study, the methodology and the tools for data collection along with the specification of the sample were clearly described. I also asked for the written and signed permission from the authorities of the club where the research would take place, and also from the participant's parents.

2.2. Instruments

The data collection procedure first involved a semi-structured interview with the coach that provided me details related to the system she uses in her sessions. The aim of this phase was to give us a first view on what she does and how she came up with the idea of the Point System. In this semi-structured type of interview, through a series of questions the coach covered all aspects of the point system and how it is being used in practice. The use of open-ended questions gave to the participant the chance to describe her experiences without being restricted by the researcher's perceptions (Creswell, 2007).

The actual observation of six different sessions that were completed in 9 hours, offered insight of the system in practice. An observation checklist was created to rate the following variables of the system: interest / enjoyment, control, athletes' autonomy, motivation, managing behavior, communication with the athletes, pressure/anxiety. In this checklist the score ranged from 1-10 for every variable. An average of the 6 sessions' scores was in the right end of the checklist (table 3).

At the end of the observations, children completed a questionnaire that allowed an examination of their perception of the motivational climate in the coaching environment. The questionnaire was a modified version of Deci's & Ryan's (1985) Intrinsic Motivation Inventory (IMI) Scale, based on the Self-Determination theory and Connell's (1985) multidimensional measure of children's perceptions of control. Through this questionnaire we wanted to find out if children really enjoyed their sport participation and to investigate the extent to which the variables of motivation (Interest/Enjoyment, Perceived Competence, Effort/Importance, Pressure/Tension, Perceived Choice, Value/Usefulness, and Relatedness) are achieved in the specific environment through the AIM Point System.

A combination of quantitative and qualitative methods was used in the research that aimed to allow for better understanding of the system in question. We assume that a systematic observation of the coach's practice along with a questionnaire

which will measure the children's motivation in the sessions would give the most possible reliable results in our research. This project is a way to systematize the method this coach uses and to evaluate the effects of this system. It is important to use the questionnaire as a quantitative instrument in order to get specific numbers which are going to be analyzed statistically and produce results for the evaluation of the size and frequency of the children's tendencies. In addition to this, the qualitative interview method gave a detailed description of the situation under research. It included the exact words of the interviewed person providing new directions in relation to our subject in question. The combination of the two methods can provide more secure results (Miles & Huberman, 1994, p. 42).

3. Results

3.1. Coach's interview

From the analysis of the first step of our data collection, in the interview phase, the coach explained how she came up with the idea of the AIM Point System, she described in detail how it works, and also, what she believes the benefits from this are.

The coach has been using the AIM Point System for 5 years with success to her coaching practice. She came up with this idea during her involvement in children's camps as a leader. She was there using stickers to reward children in various cases. Later she differentiated and implemented this approach to her coaching practice with big benefits. Based on the information provided, the A.I.M. Point System (Athletic Improvement *through* Motivation) is a positive reinforcement system which refers to junior athletes and aims to reinforce the interest and motivation and thus, the effort during the everyday training session. The ultimate goal is the long term improvement of the athletes in relation to both their sport performance and their behavior.

3.1.a. Description of the A.I.M. Point System

The AIM Point system consists of three kinds of rewards: the usual stickers, the special and the monthly rewards.

- *Common rewards:* During a usual training session every athlete is rewarded with one point for every special effort or behavior. At the end of the training session the coach gathers the whole group and the athletes announce their personal score. The athlete with the highest sum of points gains a sticker.
- *Special rewards:* Special behaviors which are worthy of a special reward receive a direct sticker by the coach.
- *Monthly rewards:* At the end of the month during a special 'ceremony' each athlete is given a small card with all the stickers gathered during the month. Those who gained the most stickers and got the 1st, 2nd and 3rd position are rewarded

with small gifts. The athlete who took the 1st position takes the role of the group's "leader" for the next month. S/he wears a special bracelet in every session, which is an indication of good effort and monthly responsibility as well. The leader has to be a role model for the rest of the group while s/he takes specific responsibilities related to the group's functioning. The picture of the whole group during the awards ceremony is posted on the official website of the club.

Specific characteristics of the system:

Gaining a "point"

Gaining a point is the result of showing special effort in some of the following domains:

1.   _Effort for good performance in sport exercises._

2.   _Effort for improving behavior as_ indicated by the coach to the athlete. Examples of specific weaknesses in behavior are:

- Refusal to obey to the coach's instructions
- Talking and playing around with their co-athletes during training
- Irritable character
- Finding excuses and not taking the responsibilities for their offenses
- Not focusing on the coach's instructions
- Indifference
- Boasting for their achievements, while behaving with arrogance to their teammates or opponents
- Attaching all responsibility for every group defeat to their athletes
- Getting easily disappointed by failure
- Refusing to give help; feeling wronged if not having the same or more points from others and strongly reacting when a weaker co-athlete is given more opportunities during the session

3.   _Actions that stand out and are important for them to be rewarded and promoted:_
- Help and interest for the others

- Actions that contribute in keeping clean and in a good condition the sports field (e.g. picking up a litter)
- Carry out a mission they have been entrusted with, for the sake of the whole group
- Show willingness and take the chance to help wherever there is a need
- Encourage their co-athletes
- Recognize their co athletes' and opponents' value and possible superiority

The 'extra' stickers

Apart from those stickers announced to each athlete at the end of each session, the athletes know that additional stickers can be placed in the final rewards sheet. The stickers enable the coach to evaluate at a later stage any moments that might have passed unnoticed during the intensity of a training or for an athlete's attempts, who despite their good effort, failed to succeed.

It is very important for every athlete to have at least one sticker at the end of the month on their reward sheet. Even in cases of negative behavior, the coach has to find some positive points for the athlete to urge for more effort without making him feel worthless. That way any disappointment that might bring opposite results to an athlete is avoided.

The rewards are small and useful objects, like school supplies or toys that are appealing and satisfying to the young athletes with their colors and shapes. They are reminders of their efforts triggering discussions with their co-athletes regarding their effort and its results. This gives extra joy to the junior athletes who achieved the goal of self improvement and made a true difference among their teammates.

'Circle time' after the training session

At the end of every session the whole group is gathered in a small circle. Every athlete announces the amount of points gained during the session. This procedure requires attention by the coach to make sure that the athletes are truthful and they

can justify the reason for gaining a point during the session. Children learn to self-assess their efforts by being honest and fair in their judgment. As the process unfolds, a relationship of trust with the coach and a feeling of security are gradually built.

Motivation for everyone

This system gives to all athletes the opportunity to stand out and be among the 'winners' of the month, regardless their athletic ability and good character. The aim is for every athlete to improve in any of the areas mentioned above. So the winners of the month can be a 'difficult' character who showed effort and managed to improve to some extent, or an athlete who remains last in performance in relation to the whole group, but managed to improve their individual performance. The aim is for the athlete to learn to 'compete themselves' and not to pay so much attention on whether they overcame their teammates or opponents. This approach which is indirectly taught to children through the AIM Point System is the motivation to remain in sports, especially for children who do not have the physical skills to be distinguished. With the goal of self-improvement they have a constantly achievable goal which keeps their interest alive and gives them a daily satisfaction for their improvement.

The trap

Due to the continuous rewards by the coach who gives a point for each separate effort, the athletes are likely to equate the effort to the rewards. However, the points and the sticker should not be an end by themselves and the children should not have the illusion that every effort in sport or in life will have a "material" or even moral reward. An important reminder to them that "we do not try for the sticker but to improve ourselves" is important to be repeated several times during the sessions.

To secure the proper conduct of the session and to avoid any equating effort-sticker, athletes are not allowed to ask themselves for a point from the coach. This

balance is very important because the constant seeking for points can lead to negative results for both the athletes and the coach.

"The best"

The nature of the system is such that gives the opportunity to everyone to be a winner during the month. It particularly supports the "weak" in each sector (athletic performance, behaviour) in order to gain their interest and to start working in a more systematic way. After a winning in 1st, 2nd or 3rd position in the monthly rewards it is difficult for an athlete to come first again in the coming months. If an athlete achieves to gain stickers constantly, this shows a constant earnest effort. However, what really makes sense within the system is the limitation of the athlete's weaknesses of those that may lack in athletic skills and good behaviour compared to the constantly successful ones.

The role of the coach for the success of the reward system

The coach must be constantly vigilant to identify the weaknesses of the athletes but mainly to reward and justify any small improvement they make. These occasions of small improvements are crucial moments for the coach because this is when s/he gains the interest of the athlete and has the chance to shift it towards the desired goal.

Of great importance is the clear presentation of the reward system to the athletes by the coach. Children need to know their goals and the reasons they are rewarded for their efforts. It should be clear in their minds that the system rewards the personal effort. Finally, once an athlete comes to the conclusion that s/he is already very good at something and there is no space for improvement, and thus, they "will never win points," the coach can take the opportunity to help them set new personal goals and highlight their weak points which need to be improved.

For every coach the challenge is to win the interest of all children, even of those who, due to the limited sport skills, large body weight, delayed development or 'difficult' character, show indifference. The rating system is a very important tool in this effort. What the coach should do is to focus the attention of every child to specific initial easy goals and help them to gain their first points. The positive verbal reward in front of the whole group presents the "marginalized" athlete even for a moment as a "model" to their teammates, giving them the opportunity to feel that they can succeed, and setting them in a way of systematic improvement. The coach should systematically watch the progress of this athlete and encourage him or her especially at the moments of losing interest or giving up. It needs a lot of time of systematic reinforcement so as the previously indifferent athlete can adopt a new and more positive point of view.

3.2. Characteristic incidences of the AIM Point System

The coach described the significant role that the system played in her practice and the way it has been beneficial to her athletes:

> "The *AIM Point System has become, for me personally as a coach, the way I saw incredible changes in many of my junior athletes and lived many events which I will remember for many years! It is quite exciting to be present in your athletes' changes, to see the result of your own and of course children's efforts, who gradually realize what their goals truly are and why they are so important! In most cases the outcome surprises you because you see it suddenly through children's spontaneity. However, these times are truly worthy as anything else in a coach's life, especially when this coach has to do with junior athletes!"*

She presented specific characteristic examples of the significant contribution of the AIM Point System to her coaching practice.

3.2.a. Incident 1. Showing a positive change

Dimitris, a 10 year old boy, was in the coaches' group last year. A brilliant, skillful child, with a really good character, he was compliant, never causing troubles, with

a big smile on his face. His coach could see that he was trying hard in every session, his performance last year was over the average and sometimes he was among the 5 to 6 better athletes in the group. He brought a very good friend of his to the group, Chris, who was however a much more different boy than him. By arguing with others he was causing troubles and was grumbling all the time. The coach soon realised that Dimitris started copying his friend's behavior quite soon becoming "a slightly naughty kid, that given his so far behavior, this change was big, and the reason very clear".

"Initially I tried to help Chris, my new athlete, to adjust and start improving his character. However, at the beginning, there were few results. Having a serious conversation with Dimitris I told him about the change in his behavior and that it was really important for him to learn how not to get influenced by others who might not behave well. However, as at that moment he became a little bit naughtier instead, I advised him that as he would grow up any tiny childish mistakes could possibly become much more serious mistakes and that they would probably influence his life as an adult. With our own good behaviour we can help others with weaknesses to improve.

At that point, the boy complained that Chris was naughtier than him and that it was unfair to have this conversation with him. I explained to him that every child has special skills and some weaknesses at the same time. For example, some kids find it difficult to run fast, while some others find it difficult not to grumble, compared to some others who achieve these without extra effort. For that purpose, I underlined that he should show understanding towards his friend Chris, and of course to try not to get influenced by his bad behavior".

After that discussion with him the coach could see that Dimitris totally changed his behavior, as he soon started collecting the points he had missed in the previous months to confirm his effort. The rest of the group was also surprised by the result and he not only became the brilliant child everyone knew but he also improved further in other domains as well. He was much more compliant and was never missing the opportunity to help his athletes, acting as a role model for the rest of the group. More importantly, his effort in the athletics events was also surprising as *"if someone would see him during the sessions he would think that he was participating in the Olympics!".* The passion and focus he showed in every single exercise were evident and one could see how happy he was every single moment

in the track. As a result, he soon showed big progress in his performance and until the end of the year he was definitely the best athlete in the group.

The most exciting thing however is not how much Dimitris improved, but the change in his friend's behavior who started showing improvement points as he was watching his friend's behavior and effort.

> *"This is the best moment for an educator to take advantage of the power of the AIM Point System and reinforce the positive direction of an athlete who just began to show some signs of positive behaviors!*

Chris started gaining the first points and the coach always underlined the reason that he was gaining them and emphasized the change he started showing. He looked really happy and excited and started getting improved with quick steps, showing serious changes in his character. "*He has no relation to the child I met at the beginning of the year. He also improved greatly his performance because he transferred his attention to the training and not on how to cause troubles. For me as a coach the great confirmation is what Chris said at the end of the year: 'This year, athletics helped me become faster and grumble less'!".*

3.2.b. Incident 2: Passing the bracelet

Marios was a quiet boy that *"you could rarely hear his voice!"* and a good athlete. With the effort he showed in the sessions soon got very good coaching results, but he didn't stay there! With the assistance and continuous motivation from the point system he continued being special, mainly because of the continuous effort in all the athletics events. For that reason he became the group leader twice. *"What surprised me most was that after a couple of months Marios' voice started to be heard loud in the track whenever he had to lead the whole group!"* He was a good leader making the group functioning brilliantly, even in instances that the coach was purposely staying a bit further. *"Through that role, little Marios, whose voice we couldn't even hear so far, managed to lead a whole group!"*

When Marios was rewarded for the second time, a special incidence occurred. During the reward time one of his co-athletes, Petros, reacted strongly by shouting: "*Hey! What's going on here? Is he going to be the leader all the time?".* That bad reaction gave an opportunity for a very serious conversation with the group in which it was underlined once more that *"we should be happy with the success of our co athletes! We shouldn't be jealous, but instead, by watching them succeeding, we should take courage so as to put more effort and achieve our own goals".* As a result of the discussion, Petros thought seriously of what was said, got over his anger and apologised for his bad behaviour. Furthermore, as it was proved later, Petros made a new start, making more effort during the sessions, which brought him new points and more enthusiasm. As a result at the end of the month Marios gave the bracelet to his good friend and new leader of the group, Petros!

3.2.c. Incident 3. Finding oneself within the system

George was a child who was trained in another group of the club with older athletes, where the AIM Point System was not implemented. In that group George was causing problems all the time by irritating the other children and not letting the coach conduct the session normally. He was a child that lacked sport skills and in combination with the total lack of effort he had difficulty to follow his co-athletes and was always last in performance. *"For the sake of the rest of the group and also for George's sake, we decided to move him to my own group with younger children, mainly because he would be equal to the others in terms of performance and we were hoping that he would then enjoy the training more".* However, when he learnt that he would be transferred he reacted strongly as he considered that it was unfair to train with younger children. Yet, as he realized that in that way he would have many opportunities during the sessions to progress, he compromised with this solution.

In his first session with the new group he was welcomed with a 'small circle group gathering'. In front of all children the coach presented George's special personal goals and all members of the group took the responsibility to help him in any way.

> *"Even from the first session George had the support from all the children, who helped him integrate in the group, and to understand what the Point System is".*

The athletics' training attracted George's interest as he soon started gaining the first points, so that the continuous grumbling and negativism were replaced by a wide smile on his face. Although his usual his performance was not that good to the other children's performance, he did not seem to mind as on the other hand points were constantly coming to confirm his efforts.

> *"Even 'small' performance results were actually 'big' for him! After all, they could not be compared to the previous performance results he was achieving when he was in the other group, since his effort there was very small. George soon became a very gentle child who was very often coming to me during the sessions and was asking: 'Miss, do you need any help?' It was as if he was feeling that in that way he would repay the other children with the help and support they had given him with such pleasure!"*

3.3. Interview Analysis

From the analysis of the data from the interview with the coach, three main themes were identified related to "Behaviour improvement", "Distinguished actions" and "Motivation for everyone".

Behavior improvement

One of the educational aims of the point system that were clearly stated by the coach refers to the possibility it offers to prevent and limit any behavior weaknesses in the athletes. In particular, the athletes learn to trust and respect the authority Figure s as when a child misbehaves in a way that shows indifference to the demands of the session, s/he will miss a point. In a similar way the junior athletes learn to understand how to behave during the whole training process

without causing trouble by talking and playing with their co-athletes and not paying attention, or in a worse case by irritating others. Another behavioral aspect is the case when the junior athlete boasts for his or her achievements, ignoring their co-athletes. With the AIM Point system children learn not to be disappointed by an instant failure or not to complain when other co-athletes gain a point. The whole idea of the system is based on this notion since it clearly rewards the effort and not the result.

Distinguished Actions

The point system rewards not only special sport efforts and performances, but also behaviours that are worth to be highlighted and rewarded and are not relevant to the sport domain. These behaviours are related to the help and interest that an athlete might show to his or her co-athletes, the interest that the latter might show for the coaching environment and the space where the sessions take place. For example, a behaviour that does worth a point according to the point system is to pick up and throw in the dust bin any trash they might see on the floor instead of showing ignorance. Also, behaviours worthy of a reward are when they encourage their co-athletes and at the same time recognise their opponents' value. In sum, the point system encourages and rewards and thus teaches life skills to the junior athletes that are really important for their psychological development and that will then help them for their adaption in social life as adults.

Motivation for everyone

What makes the point system special is its philosophy of not rewarding every month the more able athletes or those who demonstrated the best behaviour. It rewards the athletes that tried to improve and get a better position in both categories even though they are the least able ones or those with the most complex and difficult character. The point system encourages everyone to try their best. As a result, everyone can win a sticker or one position in the monthly rewards. This position is truly significant for children's psychological development as it gives them the opportunity, no matter what their abilities are, to try, improve and

develop both physically and psychologically. Without this clear position, children who are not able enough would feel disadvantaged and inferior to their 'more able' co athletes. Thus, according to the AIM Point System everyone without any exceptions is motivated to improve.

3.4. Analysis of children's questionnaires

3.4.a. Analysis of Questionnaire 1: The 'Intrinsic Motivation' Questionnaire

The purpose of Questionnaire 1: The 'Intrinsic Motivation' Questionnaire aimed to assess to what extent the AIM P. System follows the principles of motivation as introduced and presented by the Self Determination Theory (SDT). Thus, the variables of "Interest/Enjoyment", "Perceived Competence", "Perceived Control", "Pressure/Tension" and "Effort/Importance" were assessed in the specific coaching environment. The questionnaire was a modified version of "*the Intrinsic Motivation Scale*" used by Deci & Ryan (1975) and Connell's (1985) "*multidimensional measure of children's perceptions of control*".

The "interest/enjoyment" subscale is considered the self-report measure for intrinsic motivation; the "perceived competence" group of questions are considered to be positive predictors of self-report and behavioural measures of intrinsic motivation, while "pressure/tension" is a negative predictor of intrinsic motivation. Effort is a separate variable that is relevant to some motivation questions. The "perceived control" variable taken from Connell's (1985) "*multidimensional measure of children's perceptions of control*", focuses on children's understanding of the reasons for their successes and failures in the teaching and coaching environment.

With data from the Questionnaire 1 it was possible to access both children's perception upon the general climate in the sessions and also the proof that this

environment does indeed encourage the development of intrinsic motivation. Questionnaire 1 can be found on Appendix 5.

In order to analyse and interpret the results we rated the answers from 1 to 5, with 1 being the 'totally disagree' and 5 the 'totally agree'. The children had to choose among five different faces by ticking under the one that represents most their feeling of agreement or disagreement. The five faces were ranged in a continuum from "totally disagree" to "totally agree". The faces had a happy smile for '*agree*' answers and a sad smile for the '*disagree*' ones (see Figure 1).

Figure 1. Questionnaires' answers in faces

The data from Questionnaire 1 are summarised in Table 1 below, in which 'intrinsic motivation' is consisted of five different variables. The table shows the average score for each of the group of questions for each variable. In the columns next to the variables the results can be seen, in average percentage (%), from 'totally agree' to 'totally disagree'.

Intrinsic Motivation								
Questions	Ttl Agr	Agr	N A/D	Dis	Ttl Dis		Agree	Disagree
Interest / Enjoyment	91%	6%	3%	0%	0%	*100%*	**98%**	
Effort / Importance	61%	23%	7%	7%	3%	*100%*	**84%**	
Perceived Competence	40%	35%	19%	4%	3%	*100%*	**75%**	
Perceived Control	8%	10%	18%	21%	44%	*100%*		**65%**
Pressure / Tension	0%	3%	15%	25%	58%	*100%*		**83%**

Table 1. Percentage (%) of variables of intrinsic motivation

In order to show the tendency in the five variables of intrinsic motivation we added up the scores of 'totally agree' and 'agree' for the first three categories (Interest / Enjoyment, Effort / Importance, Perceived Competence) and the 'totally disagree' and 'disagree' for the last two (Perceived Control and Pressure/Tension).

In the group of questions regarding the variables of "**Interest/ Enjoyment**" it was found that children totally enjoyed their participation in the sessions. With an average result of **98%,** 91% of the children were absolutely satisfied from the interest and the enjoyment climate in the sessions. It is evident from the table that none of the children were dissatisfied from how interesting was the session content.
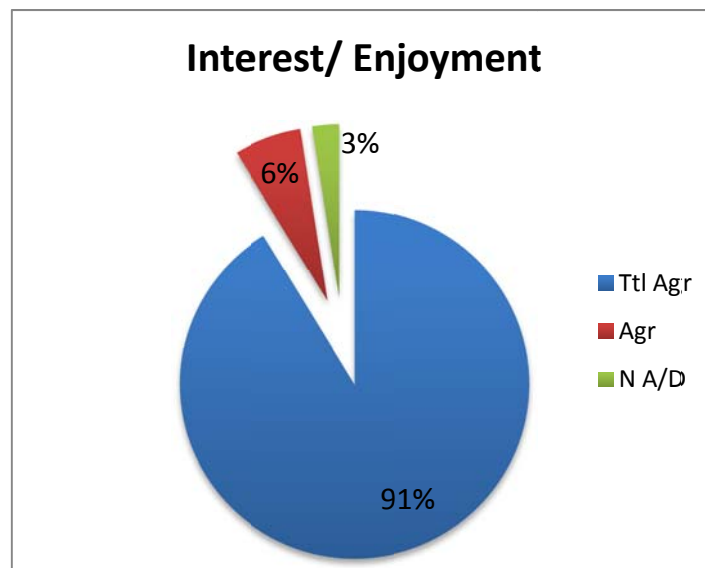
Figure 2. Percentage (%) of interest / Enjoyment

In the group of questions regarding the variables of "**Effort / Importance**" it was found that for most of the children (84%) it was important to do well in the sessions, and for that purpose they exerted great effort (61%), while the rest 23% are confident enough for their performance and skills.

However, there were a few children (10%) who did not give importance on whether they perform well or not, while they also showed that they do not exert enough effort during the sessions. Possibly these children do not enjoy their

participation in athletics either because they are not physically skilled or because they are told by their parents to participate without their own willingness.

<figure>

Effort / Importance

- Ttl Agr: 61%
- Agr: 23%
- N A/D: 7%
- Dis: 7%
- Ttl Dis: 3%

</figure>
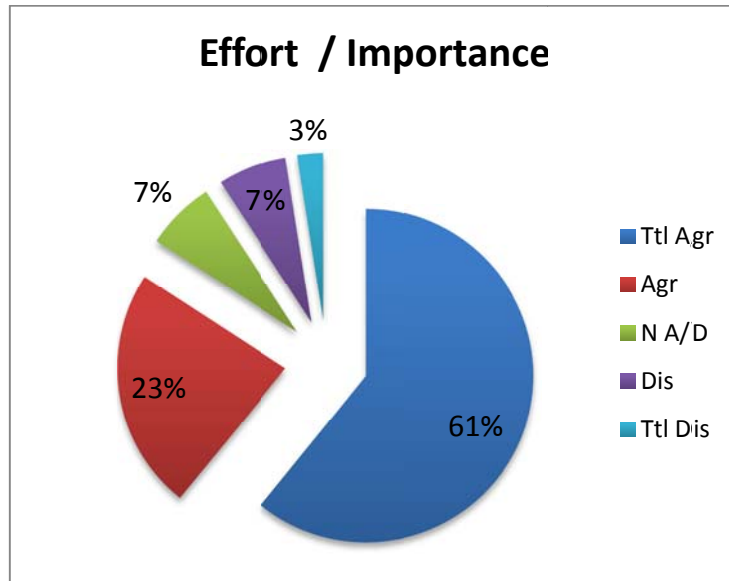
Figure 3. Percentage (%) of Effort / Importance

In the "**Perceived Competence**" group of questions the answers varied. Three out of four children (75%) were confident about their skills, however, almost half of them (40%) were totally satisfied for their performance and skills, while the other half (35%) did not show as much confidence as the first half.

<figure>

Perceived Compentence

- Ttl Agr: 40%
- Agr: 35%
- N A/D: 19%
- Dis: 4%
- Ttl Dis: 3%

</figure>
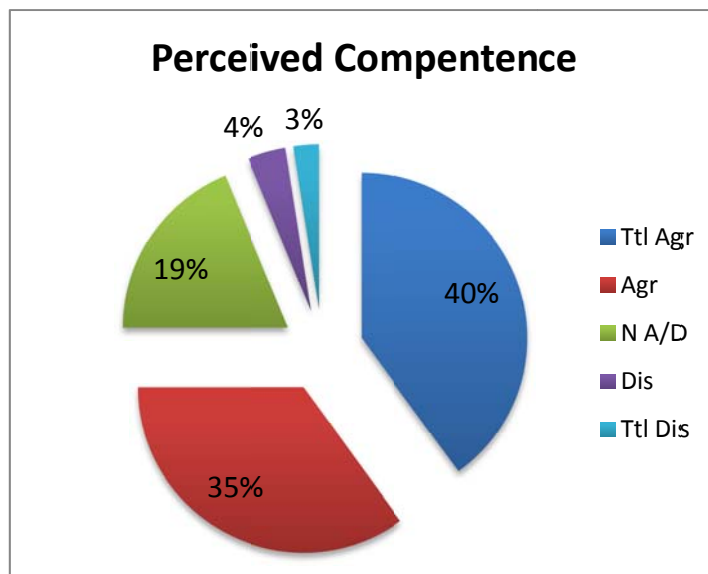
Figure 4. Percentage (%) of Perceived/ Competence

It is important to note that almost one out of five children (19%) were not that confident for their abilities and maybe in that phase they needed some encouragement to gain more confidence.

The tendency in the "**Perceived Control**" group of questions was different than the previous groups. A percentage of 65% children showed that they mostly do not understand the reasons for their successes and failures in the athletics sessions. Most of them (44%) could not figure out the reason for which they lose or win in the competitions, while 21% of them could have only a little control on their performance and realised the reasons for failure or success.
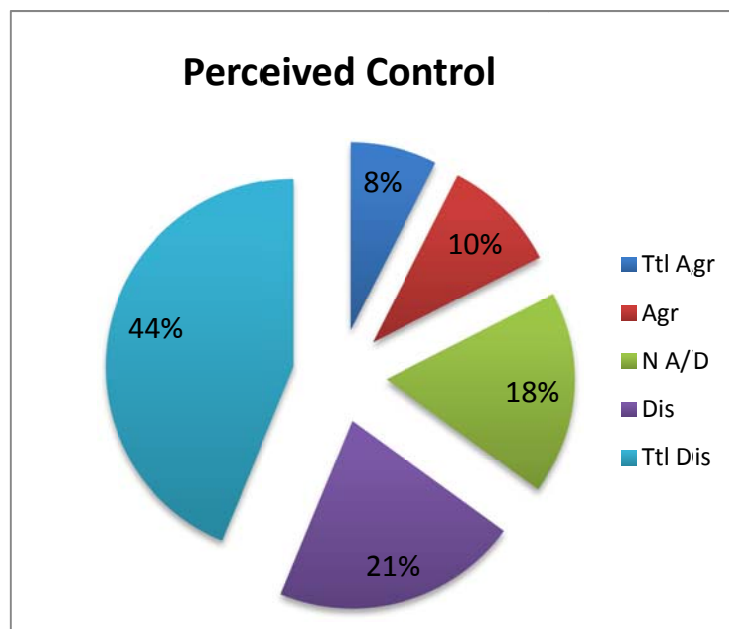
Figure 5. Percentage (%) of Perceived Control

The percentage is gradually diminishing as we approach to the left end of the scale with only 8% of the athletes having knowledge of their successes and failures.

The tendency in the "**Pressure / Tension**" group of questions was also different from the previous groups. In total, 83% children stated that they do not feel pressure and anxiety while they perform the various activities in the athletics sessions. From these the 25% had some moments of anxiety during the sessions

which however are very few and do not seem to influence their normal participation. A smaller percentage of 15% feels more pressure during the sessions, while only 3% of the children agree that they often face situations of anxiety in the training sessions.
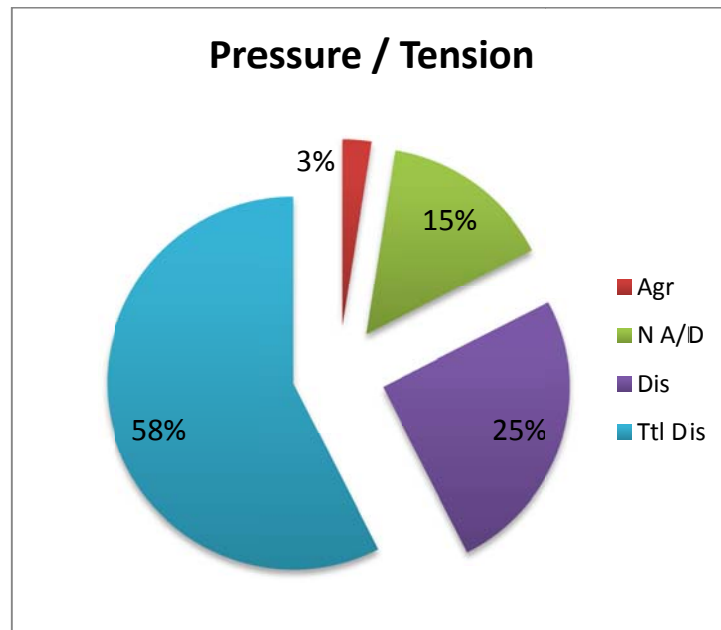
Figure 6. Percentage (%) of Pressure / Tension

3.4.b. Analysis of the "AIM" Point System Questionnaire

The aim of Questionnaire 2 was to investigate children's perceptions of the system. The athletes answered questions about the extent to which they believe the system helped them improve both their behavior and sport skills; also whether they realized the philosophy of the system, i.e. the degree that it benefits only the skilled athletes. Finally, questions about their personal attitude and behavior in relation to the system, i.e. whether in the training sessions they aim just for the points and for the rewards in the end of the month. There were 3 groups of questions: (a) System's effectiveness according to children's perceptions, (b) Have Children Realised Systems Philosophy? and (c) Children's Behaviour in Relation to the System.

"AIM" Point System								
Questions	Ttl Agr	Agr	N A/D	Dis	Ttl Dis		**Agree**	**Disagree**
System's effectiveness according to children's perceptions	56%	29%	11%	2%	3%	100%	**85%**	
Have Children Realised System's Philosophy?	81%	5%	8%	3%	3%	100%	**86%**	
Children's Behaviour in Relation to the System	75%	16%	5%	1%	3%	100%	**91%**	

Table 2. Percentage(%) of variables of 'AIM Point System'.

"System's effectiveness according to children's perceptions"

In the first group of questions most children (85%) stated that the System has helped them to improve both on their performance and their behaviour in the sessions. From these, three out of four children attributed great personal benefits to the System (56%) and almost half of them believed that it was just helpful.
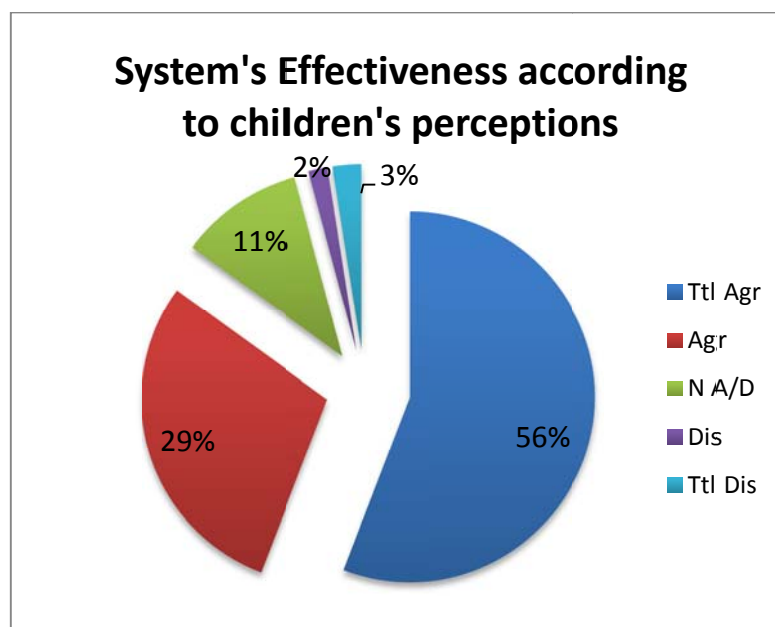
Figure 7. Percentage (%) of System's Effectiveness

As we approach the right end of the scale children do not consider the AIM System as beneficial enough. The 11% believed that it might has helped them at some point but the changes were not worth mentioning.

"How have children realised the philosophy of the system?"

The second group of questions included questions that checked children's understanding of the system (e.g. whether the system rewards the most skilful children and those with the best performance). It was found that most of the children (86%) have realised theoretically aspects of the system and how it works.
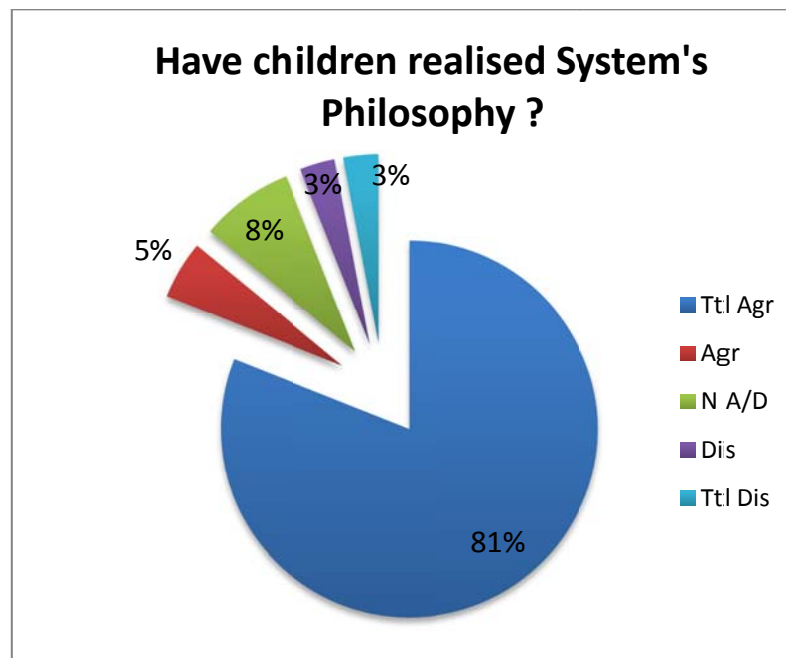
Figure 8. Percentage (%) of System's Philosophy

"Children's Behaviour in Relation to the System"

The third group of questions tested whether the theoretical concept of the System is accepted by children and implemented in practice.

Most of children's behaviour in the sessions (91%) is consistent with the System's directions. Especially 75% of them has accepted the system and behaves in a way that is consistent to the philosophy of the system and the coach's directions. Most

but not all the times 16% behaves well according to the System and only a 3% seems to be totally indifferent. Either because these children are new to the athletic club or for other unknown reasons, they have not accepted the behavioural direction implemented in the specific group. A few of them (5%) needs a little bit more attention and guidance in order to have a clear behavioural orientation.
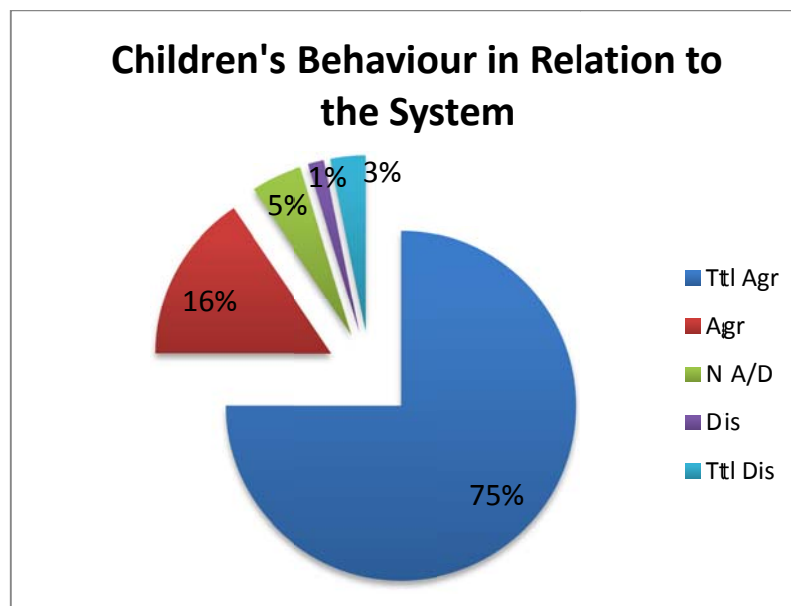
Figure 9. Percentage (%) of Children's Behaviour in relation to the System

3.5. Analysis of the observation checklist

The observation checklist aimed to further assess the coaching practice in the specific coaching environment during 6 sessions. The observation was focusing on seven different variables which will be further described and analysed.

The first variable focused on rating whether the coach was *'Encouraging interest and enjoyment'* during the coaching practice, so that the climate in the sessions is such that children have fun and learn at the same time. The second variable focused on *'Controlling behavior with rewards'*, seeking to clarify the extent to which children consider the points and any other rewards during the sessions as behavior controlling or whether they behave the way they do because it is their

choice. The variable *'Gives choices/encourages autonomy'* reveals the extent to which the training content is not an absolute decision of the coach as she engages her athletes to the decision making process giving them the freedom to choose some of the exercises. The variable *'Motivate athletes (feedback, evaluation)'* concentrates on motivating the athletes by letting them know about their progress, correcting their mistakes, evaluating their effort and giving them often instructions for improvement. The *'Managing behavior'* variable referred to the way the coach copes with misbehaviors and can set the order in the coaching environment, while the variable *'Communicating with her athletes'* sheds light into the way the coaching style is effective enough encouraging communication with the athletes. Here a differentiation is made between democratic and autocratic coaching style. Finally, we rated the coaching practice in terms of the amount of *pressure/anxiety* is exerted on the athletes through the sessions. Learning is very important in a coaching environment in an environment in which pressure and anxiety to the athletes is avoided. The scores' rate was from 1 to 10. The results from the observation were very positive since any score was under 9 (Table 3).

	Session 1	Session 2	Session 3	Session 4	Session 5	Session 6	AVERAGE
Encouraging Interest / enjoyment	9	10	9	9	10	10	9,5
Controlling behavior with rewards	9	9	8	10	9	9	9
Gives choices/encourages autonomy	10	10	9	9	9	10	9,5
Motivate athletes (feedback, evaluation)	10	10	9	10	10	10	9,8
Managing behavior	10	10	9	10	10	10	9,8
Communicating with her athletes	10	10	9	10	10	9	9,67
Asks pressure/anxiety	9	10	9	10	10	10	9,67

Table 3. *Observation checklist*

4. Discussion

The purpose of this study was to examine the way a junior athletes' motivational system introduced and used by a female coach, contributes to the development of motives in junior athletes. More particularly, the athletes' interest and enjoyment, their perceived competence and control, their feelings of pressure or tension and the amount of effort and importance they put on their training were examined. For that purpose, children completed two questionnaires and an observation checklist which was based on a 9 hour coaching observation of 6 different training sessions.

The results were positive for almost every category, indicating that children indeed enjoyed their training, without feeling anxiety and pressure during the sessions. However in the 'perceived competence' group the results varied with only less than the half of the children (40%) feeling totally confident for their abilities. Further to this, the score was also low in the perceived control group of questions, which is evidence that sometimes children cannot identify the reasons for which they might win or fail. The AIM System can contribute to the prevention of these two phenomena by helping children indentify situations in which they are worthy of a reward or not, and in that way develop their self-knowledge. For example, the 'small circle gathering' at the end of the sessions where children announce their points has such a function as children reflect and assess their performance, their efforts and achievements during the training session. This process leads to increased self knowledge and self-control.

The Observation checklist and Questionnaire 1, aimed to confirm that in the specific coaching environment, where a specific system is used, the general climate encourages the development of motives to the junior athletes and is consistent with the scientific principles of intrinsic motivation and Self Determination Theory. The data collected identified to a big extent some relevance of the System with the principles of intrinsic motivation as presented by Deci and Ryan (1985), Ryan and Deci (2000, 2002). There were only a few exceptions with children that showed

not having been benefited by the system. This differentiation might be attributed to the fact that some children were new to the club where the system was implemented, while some others did not choose to participate in athletics with their own willingness. As a result, they showed an indifference towards the athletics' training and everything that was taking place there, and thus, it was difficult for them to gain any benefits from the whole procedure. In these situations the educational approach of the AIM Point System can be proved beneficial to these children on a long term basis.

In order to get detailed information about the system, the coach that introduced and used it was interviewed. Information was gained related to the way she came up with the idea and how it is used in practice with insight on aspects of behaviours it improves. From that conversation and the analysis of the system's philosophy it became evident that the system can help junior athletes improve both their behaviour and their sport skills. An important aspect of the system was particularly emphasized as it gives the opportunity to the least able athletes and those with the most complex character to take a position in the monthly rewards, increasing everyone's feeling of improvement irrespective of their present abilities.

 Another important aspect of the system is that it rewards not only behaviours that are related to sport performance and behaviour in a teaching and coaching environment, but also behaviours that show social sensitivity, with the emphasis on helping and being interested in one's co-athletes and taking care of the space in which the sessions take place.

Finally, with a set of questions we examined the athletes' own perceptions of the system. We found that they believe that the system can help them improve; they also found it interesting and believe that the training sessions would not be that interesting without it. From their answers it also became evident that they have realised the philosophy of the system as underlined that they do not have to be

very skilful athletes in order to be rewarded. Finally, an insight was gained about their own behaviour in the sessions related to the system and it was found that children, apart from some exceptions, have accepted the System's behavioural patterns and behaved in a way that was consistent to these.

From the procedure followed in the present study some limitations were identified. We assumed that the observation procedure could take place at two different time periods, one at the beginning of the coaching year and a second after a considerable period, for example 6 months. Equally the questionnaires could be filled at these two different periods. That way a clearer image of the changes on the children could have been more evident. However the latter was practically impossible due to the time limits of the present study. In addition to this, the study could be conducted with an additional sample possibly another group of children where the AIM System is implemented in order to examine to what extent the results are the same. With that way the system's reliability could be increased.

Furthermore, taking interviews with individual children could provide a deeper insight into the way the system influences their perception of their training.

Finally, the success of the system depends to a great extent on whether the coach is trained to implement it and can be flexible and vigilant in order to adapt to the situational demands.

5. Conclusions

Having worked as a coach in the observed athletic club for two years I had personal experience of the system and was curious to explore it further. That experience and the present research showed that children look forward for the monthly rewards when they have the chance to discuss with their co-athletes their monthly achievements; they show their gifts and set new goals for the coming months. Due to the nature of the rewards, that involves gifts given to the children, one can easily assume that they can be considered as a means to control children and thus, encourage extrinsic motivation. However, the research data has underlined that through the rewards children take a confirmation for their good effort. They also take courage to go on and achieve even better results.

The research instruments of this study can be used themselves or as a basis for a further research activity on the specific domain; considering this, we can support that the present case study was a first approach of the AIM Point System and can be a promising research direction for further studies in the future.

It is important for teachers and coaches to be conscious and explore different ways with which they can make their practice more beneficial for the children. They should not remain inactive and happy with what they already know but instead, they should always wonder and compare things, explore and strive to get even more knowledge on this domain. The present research has proved that the A.I.M. Point system could be effectively used in coaching based environment. It would useful and interesting to test it also in other teaching environments (e.g. classroom based) in order to see its effectiveness in other children's groups as well.

Acknowledgements

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Appendices

Appendix 1. Parent's Consent form

CONSENT FORM FOR CHILDREN / OTHER DEPENDENTS
(To be completed by the child and their Parent /Guardian)

Title of Research:
Presentation, analysis and evaluation of the AIM Point System: a case study of a female athletics coach, who introduced and implemented an innovated motivation approach on junior athletes, in Thessaloniki, Greece.

Researcher's Name: Katerina Kazaki (katekazaki@gmail.com) *M. Sc Sports Coaching*

Child (or if unable, parent/guardian on their behalf) / young person to circle all they agree with

Have you read (or had read to you) information about this project?   Yes/No
Has somebody else explained this project to you?
            Yes/No
Do you understand what this project is about?
            Yes/No
Have you asked all the questions you want?   Yes/No
Have you had your questions answered in a way you understand?   Yes/No
Do you understand it's OK to stop taking part at any time?
            Yes/No
Are you happy to take part?
            Yes/No

If <u>any</u> answers are 'no' or you **don't** want to take part, don't sign your name!
All information collected about you during the course of the research will be kept **strictly confidential.** Any information about you will not be disclosed to anyone. If the results of this study are published no reference will be made to those individuals who took part.

If you **do** want to take part, you can write your name below

Your name   _____

Date   _____

Your parent or guardian must write their name here if they are happy for you to do the project.

Print Name   _____

Sign   _____

Date   _____

The researcher who explained this project to you needs to sign too.

Print Name   _____

Sign   _____

Date   _____

		TY
LIVERPOOL JOHN MOORES UNIVERSITY		EET

Title of Project: Presentation, analysis and evaluation of the AIM Point System: a case study of a female athletics coach, who introduced and implemented an innovated motivation approach on junior athletes, in Thessaloniki, Greece.

Katerina Kazaki (katekazaki@gmail.com)

M. Sc Sports Coaching

Liverpool John Moores University

1.   What is the reason for this letter?

The purpose of this letter is to inform and give details on the research project we are planning to start, and ask the signed consent of the head coach of the athletic club where the study will take place.

2.   What is the purpose of the study/rationale for the project?

This research project has been designed in order to study the "AIM Point system", which is implemented by the coach of the club in her sessions, and aims to motivate athletes and improve both their athletic progress and their behavior. Through this research project we want to prove the the point system could be an innovated practice that encourages sport participation and develops motivation in young athletes.

3.   What we are asking you to do? (be explicit about access and what role the gatekeeper will be taking)

We need your consent in order to:
- Interview the coach that implements the system.
- Be present for the observation of 6 coaching sessions in overall
- Give to the coach's group 2 questionnaires to complete

We will not require access to the club. The video will be recorded with the co operation of the coach.

4.   If you are willing to assist in the study what happens next?

We will give the participants' information sheet and the consent form in order for the children's parents to complete and return it. If we have their consent we will begin with

the coach's interview, Then we will go on with the videotaping and finally with the questionnaires.

5.   How we will use the Information/questionnaire?
The information collected from the questionnaire will only be used for the purpose of the research. The participants will need to give personal details and all information will remain anonymous and confidential.

6.   Will the name of my organisation taking part in the study be kept confidential?

The name of the organisation will remain confidential during and after the study.

7.   What will taking part involve? What should I do now?
  - Sign and return the **Gatekeeper Consent Form** provided
  - Please make sure **Signed Parental Consent Forms** are collected back **BEFORE distributing the questionnaire.**

Should you have any comments or questions regarding this research, you may contact the researcher: Katerina Kazaki (katekazaki@gmail.com)

This study has received ethical approval from LJMU's Research Ethics Committee
(REC reference number and date of approval)

If you have any concerns regarding your involvement in this research, please discuss these with the researcher in the first instance. If you wish to make a complaint, please contact researchethics@ljmu.ac.uk and your communication will be re-directed to an independent person as appropriate.

Appendix 3. Participants Information Sheet
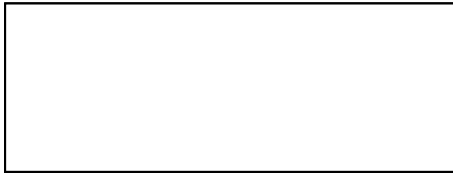
LIVERPOOL JOHN MOORES UNIVERSITY

Title of Project: Presentation, analysis and evaluation of the AIM Point System: a case study of a female athletics coach, who introduced and implemented an innovated motivation approach on junior athletes, in Thessaloniki, Greece.

Name of Researcher and School/Faculty

Katerina Kazaki - M. Sc Sports Coaching

"You are being invited to take part in a research study. Before you decide it is important that you understand why the research is being done and what it involves. Please take time to read the following information. Ask us if there is anything that is not clear or if you would like more information. Take time to decide if you want to take part or not."

1. What is the purpose of the study?
This research project has been designed in order to study the "AIM Point system", the reward system that is implemented in your sessions, and aims to motivate all athletes and improve both their athletic progress and their behavior. Furthermore, we want to find out how interesting your sessions are, and if you are having fun during your participation in athletics. Through this research project we want to prove the the point system could be an innovated practice that encourages sport participation and develops motivation in young athletes.

2. Do I have to take part?
No. It is up to you to decide whether or not to take part. If you do you will be given this information sheet and asked to sign a consent form. You are still free to withdraw at any time and without giving a reason. A decision to withdraw will not affect your rights/any future treatment/service you receive.

3. What will happen to me if I take part?
You will only be asked to complete a questionnaire in relation to your participation in athletics.

4. Are there any risks / benefits involved?
There are no risks or benefits involved.

5. Will my taking part in the study be kept confidential?
All information for participants will remain anonymous and confidential during and after the study.

Contact Details of Researcher

katekazaki@gmail.com

Appendix 4. Observation checklist

	Session 1	Session 2	Session 3	Session 4	Session 5	Session 6	AVERAGE
Encouraging Interest / enjoyment							
Controlling behavior with rewards (R)							
Gives choices/encourage autonomy							
Motivate athletes (feedback, evaluation)-							
Managing behavior							
Communicating with her athletes							
Asks pressure/anxiety (R)							

1. I enjoy the activities we do in the sessions very much.

gree

☐ ☐ ☐ ☐ ☐

2. I think I am pretty good at the activities we do.

y disagree   ee

☐ ☐ ☐ ☐ ☐

3. I put a lot of effort in every session.

disagree

☐ ☐ ☐ ☐ ☐

4. I do not feel nervous at all while doing the various activities in the sessions. (R)

disagree

☐ ☐ ☐ ☐ ☐

5. There are some activities that I cannot do very well. (R)

disagree

☐ ☐ ☐ ☐ ☐

6. Most times, when I win in a race, I can't Figure out why.

y disagree

☐ ☐ ☐ ☐ ☐

7. I think the activities we do are boring. (R)

disagree

☐ ☐ ☐ ☐

8. I think I do pretty well at athletics, compared to my co-athletes.

y disagree   e

☐ ☐ ☐ ☐ ☐

9. It is important to me to do well at the activities in the sessions.

disagree   e

☐ ☐ ☐ ☐ ☐

10. I feel very nervous while doing the activities. (R)

disagree

☐ ☐ ☐ ☐ ☐

11. Most times when I lose a race, I can't Figure out why.

disagree

☐ ☐ ☐ ☐ ☐

12. Athletics do not hold my attention at all. (R)

disagree   e

☐ ☐ ☐ ☐ ☐

13. I am satisfied with my progress in athletics.

disagree

☐ ☐ ☐ ☐ ☐

14. I don't put much energy in the sessions. (R)

disagree

☐ ☐ ☐ ☐ ☐

15. I don't need to try very hard to do well at athletics. (R)

ly disagree

☐ ☐ ☐ ☐ ☐

16. When I have a competition with another kid and I win, it's probably because the other kid didn't run well.

disagree

☐ ☐ ☐ ☐ ☐

17. I would describe athletics as a very interesting activity.

disagree

☐ ☐ ☐ ☐ ☐

18. I think I am skilled at athletics.

disagree

☐ ☐ ☐ ☐ ☐

19. I feel very pressed while practicing at the various exercises.

disagree

☐ ☐ ☐ ☐ ☐

20. It is important to me to do well in the sessions, so I try hard to achieve this.

y disagree

☐ ☐ ☐ ☐ ☐

21. When I lose in athletics, it mostly happens because the kid I compete performs a lot better than me.

y disagree

☐ ☐ ☐ ☐ ☐

1. The AIM Point System helps me improve my behavior and character.

ly disagree ☐ ☐ ☐ ☐ ☐

2. I would prefer the training sessions without the AIM Point System.

y disagree   ee

☐ ☐ ☐ ☐ ☐

3. In order to gain points you have to be the fastest and the strongest among the children in the group.

disagree

☐ ☐ ☐ ☐ ☐

4. In order to gain points you have to try even if you are the last.

disagree

☐ ☐ ☐ ☐ ☐

5. There are many opportunities to gain points (i.e. by trying to improve your performance, your behaviour, by assisting your co-athletes, by tidying the tr aining space e.t.c)

Totally disagree   Totally agree

☐ ☐ ☐ ☐ ☐

6. AIM Point System is a good way to find out my weaknesses and due to this I can limit them more easily.

sagree ☐ ☐ ☐ ☐ ☐ y agree

7. When my coach reminds me of my weaknesses (either at my sport skills or my behaviour) I do everything I can to improve myself.

lly disagree ☐ ☐ ☐ ☐ ree

8. When my coach reminds me of my weaknesses (either at my sport skills or my behaviour) I get angry.

disagree ☐ ☐ ☐ ☐ ☐ ree

9. The only way to gain points is to perform better than anyone else in the

group. ☐ ☐ ☐ ☐ ☐

10. When one of my co athletes gains points I get jealous and complain.

☐ ☐ ☐ ☐ ☐

11. When one of my co athletes gains points I try to do what s/he did in order to improve myself in the same way.

disagree ☐ ☐ ☐ ☐ ☐ gree

12. When one of my co-athletes behaves or performs well I tell it straight to my coach because I believe that s/he is worthy to be rewarded.

disagree e

☐ ☐ ☐ ☐ ☐

13. I assist my co athletes during the sessions only to gain points. If not, there is no point in assisting anyone.

y disagree ☐ ☐ ☐ ☐ ☐ e

14. When one of my co-athletes behaves or performs well I wish that my coach will not see it so as s/he will not gain more points than me.

disagree ☐ ☐ ☐ ☐ ☐ gree

15. I try in the sessions in order to improve myself.

y disagree ☐ ☐ ☐ ☐ ☐ e

16. I try in the sessions only to gain points.

disagree e

☐ ☐ ☐ ☐ ☐

58

17. Each point I gain makes me realise that every single effort does count.

ally disagree ☐ ☐ ☐ ☐ ☐ y agree

18. Each point constitutes a confirmation of my efforts.

disagree

☐ ☐ ☐ ☐ ☐

19. Every single point makes me try even harder.

disagree

☐ ☐ ☐ ☐ ☐

20. When I gain a point I think myself that I am good enough and don't need to try that much.

y disagree ☐ ☐ ☐ ☐ ☐ e

21. When you are the group leader you can do with your co athletes whatever you

want. ☐ ☐ ☐ ☐ ☐

22. Being the group leader is for me of a great significance.

☐ ☐ ☐ ☐ ☐

23. Being the group leader is a big responsibility.
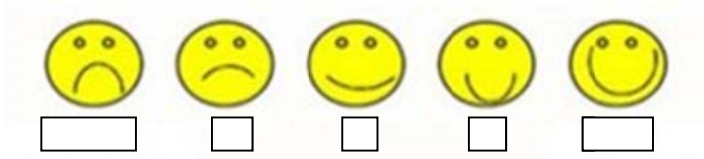
24. From September until now I believe I have greatly improved.
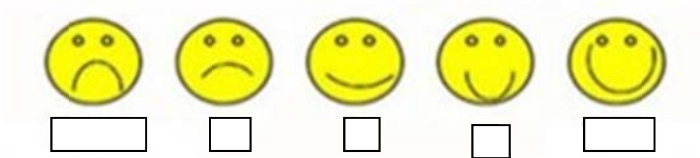
25. AIM Point System has helped to improve myself so much.
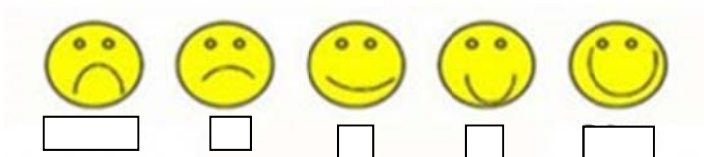
26. What counts in sports is to come always first. If you don't manage to do so, you haven't done anything.
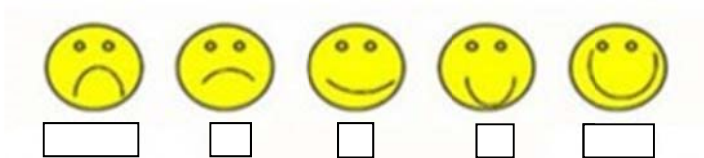
27. A successful athlete is the one that through sports s/he has learnt how to try harder and managed to become a better person, even though s/he hasn't won in any competition.
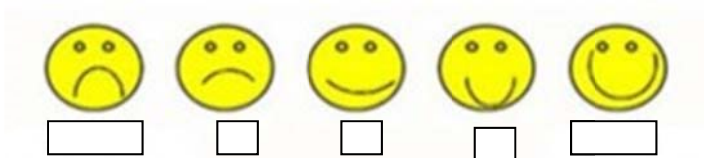
Questionnaire 1

Effort / Importance

Q No	Questions	Ttl Agr	Agr	N A/D	Dis	Ttl Dis	Ttl	Average	Result
A3	I put a lot of effort in every session.	8	10	2	0	0	20	**4,3**	agree
A5	I can do very well all the activities we do.	0	6	5	6	3	20	**2,7**	neither agree or disagree
A9	It is important to me to do well at the activities in the sessions.	19	1	0	0	0	20	**4,95**	totally agree
A14	I put much energy in the sessions.	14	4	1	1	0	20	**4,55**	totally agree
A15	I need to try very hard in order to do well at athletics.	16	3	0	1	0	20	**4,7**	totally agree
A20	It is important to me to do well in the sessions, so I try hard to achieve this.	16	4	0	0	0	20	**4,8**	totally agree

Effort / Importance in **Percentage** (%)

Q No	Questions	Ttl Agr	Agr	N A/D	Dis	Ttl Dis	Ttl
A3	I put a lot of effort in every session.	40%	50%	10%	0%	0%	100%
A5	I can do very well all the activities we do.	0%	30%	25%	30%	15%	100%
A9	It is important to me to do well at the activities in the sessions.	95%	5%	0%	0%	0%	100%
A14	I put much energy in the sessions.	70%	20%	5%	5%	0%	100%
A15	I need to try very hard in order to do well at athletics.	80%	15%	0%	5%	0%	100%
A20	It is important to me to do well in the sessions, so I try hard to achieve this.	80%	20%	0%	0%	0%	100%
	Average	**61%**	**23%**	**7%**	**7%**	**3%**	**100%**

Interest/ Enjoyment

Q No	Questions	Ttl Agr	Agr	N A/D	Dis	Ttl Dis	Ttl	Average	Result
A1	I enjoy the activities we do in the sessions very much.	16	3	1	0	0	20	**4,75**	totally agree
A7	I find the activities we do very interesting.	17	2	1	0	0	20	**4,8**	totally agree
A12	Athletics do hold my attention.	20	0	0	0	0	20	**5**	totally agree
A17	I would describe athletics as a very interesting activity.	20	0	0	0	0	20	**5**	totally agree

Interest/ Enjoyment in **Percentage** (%)

Q No	Questions	Ttl Agr	Agr	N A/D	Dis	Ttl Dis	Ttl
A1	I enjoy the activities we do in the sessions very much.	80%	15%	5%	0%	0%	100%
A7	I find the activities we do very interesting.	85%	10%	5%	0%	0%	100%
A12	Athletics do hold my attention.	100%	0%	0%	0%	0%	100%
A17	I would describe athletics as a very interesting activity.	100%	0%	0%	0%	0%	100%
	Average	**91%**	**6%**	**3%**	**0%**	**0%**	**100%**

Perceived Compentence

Q No	Questions	Ttl Agr	Agr	N A/D	Dis	Ttl Dis	Ttl	Average	Result
A2	I think I am pretty good at the activities we do.	6	9	5	0	0	20	**4,05**	agree
A8	I think I do pretty well at athletics, compared to my co-athletes.	2	6	7	3	2	20	**3,15**	neither agree or disagree
A13	I am satisfied with my progress in athletics.	13	6	1	0	0	20	**4,6**	totally agree
A18	I think I am skilled at athletics.	11	7	2	0	0	20	**4,45**	agree

Perceived Compentence in **Percentage** (%)

Q No	Questions	Ttl Agr	Agr	N A/D	Dis	Ttl Dis	Ttl
A2	I think I am pretty good at the activities we do.	30%	45%	25%	0%	0%	100%
A8	I think I do pretty well at athletics, compared to my co-athletes.	10%	30%	35%	15%	10%	100%
A13	I am satisfied with my progress in athletics	65%	30%	5%	0%	0%	100%
A18	I think I am skilled at athletics.	55%	35%	10%	0%	0%	100%
	Average	**40%**	**35%**	**19%**	**4%**	**3%**	**100%**

Perceived Control

Q No	Questions	Ttl Agr	Agr	N A/D	Dis	Ttl Dis	Ttl	Average	Result
A6	Most times, when I win in a race, I can't Figure out why.	2	2	4	4	8	20	2,3	Disagree
A11	Most times when I lose a race, I can't Figure out why.	3	1	2	1	13	20	2	Disagree
A16	When I have a competition with another kid and I win, it's probably because the other kid didn't run well.	0	1	3	6	10	20	1,75	Disagree
A21	When I lose in athletics, it mostly happens because the kid I compete performs a lot better than me.	1	4	5	6	4	20	2,6	neither agree or disagree

Perceived Control in **Percentage** (%)

Q No	Questions	Ttl Agr	Agr	N A/D	Dis	Ttl Dis	Ttl
A6	Most times, when I win in a race, I can't Figure out why.	10%	10%	20%	20%	40%	100%
A11	Most times when I lose a race, I can't Figure out why.	15%	5%	10%	5%	65%	100%
A16	When I have a competition with another kid and I win, it's probably because the other kid didn't run well.	0%	5%	15%	30%	50%	100%
A21	When I lose in athletics, it mostly happens because the kid I compete performs a lot better than me.	5%	20%	25%	30%	20%	100%
	Average	**8%**	**10%**	**18%**	**21%**	**44%**	**100%**

Pressure / Tension

Q No	Questions	Ttl Agr	Agr	N A/D	Dis	Ttl Dis	Ttl	Average	Result
A4	I do feel nervous while doing the various activities in the sessions.	0	1	4	3	12	20	**1,7**	Disagree
A19	I feel very pressed while practicing the various exercises.	0	0	2	7	11	20	**1,55**	Disagree

Pressure / Tension in **Percentage** (%)

Q No	Questions	Ttl Agr	Agr	N A/D	Dis	Ttl Dis	Ttl
A4	I do feel nervous while doing the various activities in the sessions	0%	5%	20%	15%	60%	100%
A19	I feel very pressed while practicing at the various exercises.	0%	0%	10%	35%	55%	100%
	Average	**0%**	**3%**	**15%**	**25%**	**58%**	**100%**

Questionnaire 2

System's effectiveness according to children's perceptions

Q No	Questions	Ttl Agr	Agr	N A/D	Dis	Ttl Dis	Ttl	Ave	Result
B1	The AIM Point System helps me become a better athlete.	13	4	2	1	0	20	**4,45**	Agree
B2	The AIM Point System helps me improve my behaviour and character.	11	7	2	0	0	20	**4,45**	Agree
B3	I would prefer the training sessions with the AIM Point System.	15	4	0	0	1	20	**4,6**	Agree
B7	AIM Point System is a good way to find out my weaknesses and limit them.	9	7	2	0	2	20	**4,05**	Agree
B27	From September until now I believe I have been greatly improved.	12	6	2	0	0	20	**4,5**	Totally Agree
B29	AIM Point System has helped to improve myself so much.	7	7	5	1	0	20	**4**	Agree

System's effectiveness according to children's perceptions in *Percentage (%)*

Q No	Questions	Ttl Agr	Agr	N A/D	Dis	Ttl Dis	Ttl
B1	The AIM Point System helps me become a better athlete.	65%	20%	10%	5%	0%	100%
B2	The AIM Point System helps me improve my behaviour and character.	55%	35%	10%	0%	0%	100%
B3	I would prefer the training sessions with the AIM Point System.	75%	20%	0%	0%	5%	100%
B7	AIM Point System is a good way to find out my weaknesses and eliminate them	45%	35%	10%	0%	10%	100%
B27	From September until now I believe I have been greatly improved.	60%	30%	10%	0%	0%	100%
B29	AIM Point System has helped to improve myself so much.	35%	35%	25%	5%	0%	100%
	Average	**56%**	**29%**	**11%**	**2%**	**3%**	**100%**

How Children have Realised Systems Philosophy

Q No	Questions	Ttl Agr	Agr	N A/D	Dis	Ttl Dis	Ttl	Ave	Result
B4	In order to gain points you don't have to be the fastest and the strongest among the children in the group.	13	3	2	0	2	20	**4,25**	Agree
B5	In order to gain points you have to try even if you are the last.	19	0	1	0	0	20	**4,9**	totally agree
B6	There are many opportunities to gain points (i.e. by trying to improve your performance, your behaviour, by assisting your co-athletes, by tidying the training space e.t.c)	17	1	2	0	0	20	**4,75**	totally agree
B10	The only way to gain points is to perform better than anyone else in the group.	14	0	3	3	0	20	**4,25**	Agree
B31	A successful athlete is the one that through sports s/he has learnt how to try harder and managed to become a better person, even though s/he hasn't won in any competition.	18	1	0	0	1	20	**4,75**	totally agree

How Children have Realised Systems Philosophy in *Percentage (%)*

Q No	Questions	Ttl Agr	Agr	N A/D	Dis	Ttl Dis	Ttl
B4	In order to gain points you don't have to be the fastest and the strongest among the children in the group.	65%	15%	10%	0%	10%	100%
B5	In order to gain points you have to try even if you are the last.	95%	0%	5%	0%	0%	100%
B6	There are many opportunities to gain points (i.e. by trying to improve your performance, your behaviour, by assisting your co-athletes, by tidying the training space e.t.c)	85%	5%	10%	0%	0%	100%
B10	The only way to gain points is to perform better than anyone else in the group.	70%	0%	15%	15%	0%	100%
B31	A successful athlete is the one that through sports s/he has learnt how to try harder and managed to become a better person, even though he or she hasn't won in any competition.	90%	5%	0%	0%	5%	100%
	Average	**81%**	**5%**	**8%**	**3%**	**3%**	**100%**

Children's Behaviour in Relation to the System

Q No	Questions	Ttl Agr	Agr	N A/D	Dis	Ttl Dis	Ttl	Average	Result
B8	When my coach reminds me of my weaknesses (either at my sport skills or my behaviour) I do everything I can to improve myself.	17	1	0	0	2	20	4,55	totally agree
B9	When my coach reminds me of my weaknesses (either at my sport skills or my behaviour) I get angry.	16	1	0	1	2	20	4,4	agree
B11	When one f my co athletes gains points I get jealous and I complain.	18	2	0	0	0	20	4,9	totally Agree
B12	When one f my co athletes gains points I try to do what s/he did in order to improve myself in this direction.	10	5	2	0	3	20	3,95	agree
B13	When one of my co-athletes behaves or performs well I tell it straight to my coach because I believe that s/he is worthy to be rewarded.	4	12	3	0	1	20	3,9	agree
B14	When one of my co-athletes behaves or performs well I wish that my coach will not see it so as s/he will not gain more points than me.	16	2	0	2	0	20	4,6	totally Agree
B15	I assist my co athletes during the sessions only to gain points. If not, there is no point in assisting anyone.	17	1	1	0	1	20	4,65	totally Agree
B16	I try in the sessions in order to improve myself.	19	0	0	0	1	20	4,8	totally agree
B17	I try in the sessions only in order to gain points.	15	4	1	0	0	20	4,7	totally Agree
B19	Each point I gain makes me realise that every single try does count.	16	4	0	0	0	20	4,8	totally agree

B20	Each point constitutes a confirmation of my efforts.	14	5	1	0	0	20	**4,65**	totally agree
B21	Every single point makes me try even harder.	14	6	0	0	0	20	**4,7**	totally agree
B22	When I gain a point I think myself that I am good enough and don't need to try that much.	16	4	0	0	0	20	**4,8**	totally Agree
B24	When you are the group leader you can do with your co athletes whatever you want.	20	0	0	0	0	20	**5**	totally Agree
B25	Being the group leader is for me of a great significance.	8	5	4	2	1	20	**3,85**	agree
B26	Being the group leader is a big responsibility.	15	1	4	0	0	20	**4,55**	totally agree
B30	What counts in sports is to come always first. If you don't manage to do so, you haven't done anything.	20	0	0	0	0	20	**5**	totally Agree

Children's Behaviour in Relation to the System in **Percentage** (%)

Q No	Questions	Ttl Agr	Agr	N A/D	Dis	Ttl Dis	Ttl
B8	When my coach reminds me of my weaknesses (either at my sport skills or my behaviour) I do everything I can to improve myself.	85%	5%	0%	0%	10%	100%
B9	When my coach reminds me of my weaknesses (either at my sport skills or my behaviour) I get angry.	80%	5%	0%	5%	10%	100%
B11	When one f my co athletes gains points I get jealous and complain.	90%	10%	0%	0%	0%	100%
B12	When one f my co athletes gains points I try to do what s/he did in order to improve myself in this direction.	50%	25%	10%	0%	15%	100%
B13	When one of my co-athletes behaves or performs well I tell it straight to my coach because I believe that s/he is worthy to be rewarded.	20%	60%	15%	0%	5%	100%
B14	When one of my co-athletes behaves or performs well I wish that my coach will not see it so as s/he will not gain more points than me.	80%	10%	0%	10%	0%	100%
B15	I assist my co athletes during the sessions only to gain points. If not, there is no point in assisting anyone.	85%	5%	5%	0%	5%	100%
B16	I try in the sessions in order to improve myself.	95%	0%	0%	0%	5%	100%
B17	I try in the sessions only in order to gain points.	75%	20%	5%	0%	0%	100%
B19	Each point I gain makes me realise that every single try does count.	80%	20%	0%	0%	0%	100%
B20	Each point constitutes a confirmation of my efforts.	70%	25%	5%	0%	0%	100%

B21	Every single point makes me try even harder.	70%	30%	0%	0%	0%	100%
B22	When I gain a point I think myself that I am good enough and don't need to try that much.	80%	20%	0%	0%	0%	100%
B24	When you are the group leader you cannot do whatever you want, to your co athletes.	100%	0%	0%	0%	0%	100%
B25	Being the group leader is for me of a great significance.	40%	25%	20%	10%	5%	100%
B26	Being the group leader is a big responsibility.	75%	5%	20%	0%	0%	100%
B30	What counts in sports is to come always first. If you don't manage to do so, you haven't done anything.	100%	0%	0%	0%	0%	100%
	Average	**75%**	**16%**	**5%**	**1%**	**3%**	**100%**